

REMARKS

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. This amendment is in response to the Office Action mailed August 21, 2007. Claims 1-31 were rejected. The claims have been amended to address the concerns raised by the Examiner.

Claims 1-31 were originally presented. Claims 2-8, 11-14, 19-27 remain in the application. Claims 1, 9, 10, 15-18, 28-31 have been amended. The amended language is supported by the specification, and no new matter has been added. The processing of print job segments into print engine-ready data is discussed on page 5, line 22-25 of the application and original claim 9. The assembling of print engine-ready data is discussed page 6, line 10-11 of the application.

Claim Rejections - 35 U.S.C. § 102

Claims 1-11, 15-25, and 28-30 (including independent claims 1, 18, 30, and 31) were rejected under 35 U.S.C. § 102(b) as being anticipated by Barry et al. (US Patent Number 7,099,027 B1).

In order to most succinctly explain why the claims presented herein are allowable, Applicant will direct the following remarks primarily to the originally presented independent claims 1, 18, 30, and 31, specifically claim 1, with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable.

Barry relates to distributing a print job to multiple printers by segmenting the print job into smaller sized pieces and physically printing those pieces in parallel to multiple printers so the print job prints faster than a printing the entire print job on single printer. In Barry, the merge block in Figure 1b refers to mechanical or manual collation of the physical print outputs, which will be discussed in detail later.

In contrast, independent claim 1 claims distributing a print job to multiple printers by segmenting the print job into smaller sized pieces, processing those pieces into the print engine-ready data segments on the RIP engines of multiple printers, **assembling the print engine-ready data segments into a single print engine-ready data print job**, and **printing** the assembled print engine-ready data print job (placing the toner or ink on the physical pages) on **a single**

printer. Barry segments the print job and prints the print job to multiple printers, while claim 1, segments the print job, processes the segments on multiple printers, combines the segments, and then prints the print job to a single printer.

In Barry, the merge block in Figure 1b refers to mechanical or manual collation of the physical print outputs. Barry discloses the merge block is optional, meaning not critical to the distributive printing operation (column 5, lines 15). Barry further discloses the merge operation is not necessary if the outputs of the RIP engines are in different locations (column 5, lines 19-21). This means that proximity of multiple RIP engines to each other is important for the merge operation, and the inputs to the merge operation are printed segmented outputs (printed segments of a document). Only mechanical and manual processes are concerned with the location of the RIP engine. In Figure 1b, the print job segments are both RIPPED and physically printed 150-154 before the merge 162. So the RIP and print outputs 156-160 are printed segmented outputs before entering the merge block 162. The print job output 164 is printed segments that are mechanically or manually collated together to form a single printed output or job (printed document).

Figure 1b discloses the distributor 118 and merge 162 as separate units and Barry never suggests that the distributor 118 and merge 162 operations communicate with each other or are housed in the same unit. The reason the distributor 118 and merge 162 cannot communicate with each other or are not housed in the same unit is because they handle different forms of the print job. The distributor 118 handles the electronic form of the print job output and the merge 162 handles the physical printed form of the print job.

Barry does not disclose and does not suggest the print job output 164 is an electronic output in Figure 1b (column 5, lines 15-18). Barry uses rectangular boxes to represent processing on an input and uses arrows to show connectivity and flow from the output of one process to the input of the next process. Arrows show transferring of an output to another process, not processing. Barry does not disclose and does not suggest the print job output 164 (a step connector or arrow) is sent to a print engine (a process step or box) to convert the electronically merged job into a merged printed job (column 5, lines 15-18). No print functional block (a process step or box) is shown after the merge 162 function block (a process step or box) in figure 1b, only the merge output called the print job output 164. Barry discloses “parallel conversion

processing and printing prior to becoming merged together to complete the print job along path 164” (column 5, lines 39-41). Both the Barry diagram and specification disclose that all printing occurs prior to print job output path 164.

The Barry reference fails to disclose “assembling the plurality of print engine-ready data segments received from the one or more distribution responsive printers at the print distribution module.” In addition, Barry does not teach or suggest “printing the assembled plurality of print engine-ready data segments at a target printer when the plurality of segments is received from the print distribution module” (claim 1). These two steps are not taught in any of the cited references.

The print distribution module of claim 1 divides, transmits the segments to multiple printers, assembles the process segments (still in electronic form), and transmits the assembled segments to the target printer. In contrast the distributor block 118 (figure 1b) in Barry only divides and transmits the segments to multiple printers. The distributor block in Barry never receives segments after RIP engines process the print segment.

The advantage of having the assembling function and transmitting function (of the segments to the target printer) in the print distribution module is that the communication is electronic so the location of the distribution responsive printers’ RIP engines to the target printer’s print engine is irrelevant. The RIP engines’ connections to the distribution module and target printer, or network, allows print jobs to be re-assembled. In contrast, Barry’s merge 162 relies on the RIP engine’s physical location to other RIP engines.

Since the RIP engine function may be the bottleneck in the printing process, the print distribution module of claim 1 distributes the RIP engine function among available printers and combines the resulting print engine-ready data streams from those printers but leaves the physical printing to a single printer (the target printer) so the output does not need to be mechanically or manually merged.

The electronic merge function or “assembling the plurality of print engine-ready data segments” in claim 1 would not work if it was only optional as Barry discloses (column 5, lines 15). This is because the RIP engine function or printer processor used to rasterize the image or document usually takes longer to process a document (especially for graphics) than the print engine function that actually places toner or ink on a page. Barry never discloses or suggests combining data streams created by the RIP engines of the distribution responsive printers and

sending the combined data streams to a target printer. The method of claim 1 has better performance than the schemes found in the prior art, since the printed output comes from a single printer already combined, and the location of the distribution responsive printers are not relevant so as long as they are connected to the distribution module and the target printer.

Independent claims 18, 30, and 31 have also been rejected using the same pin point citation in Barry and the same reasoning as in claim 1, so these independent claims should also be allowable for the same reasons. Therefore, Applicant respectfully submits that claims 1-31 are allowable, and urges the Examiner to withdraw the rejection.

The Applicant will also explain why the dependent claims 8, 10, 16, 19, and 21 presented herein also contain patentably distinct subject matter.

Claim 8 claims the first print job segment can be transmitted to the target printer to be RIPPED and physically printed, while the other print job segments can be sent to distribution responsive printers for RIPPING. The other print job segments can finish processing on the distribution responsive printers and can be transmitted to the target printer while first print job segment can finish processing and printing on the target printer. Claim 8 makes a distinction between a target printer that actually places toner or ink on a page and distribution responsive printers that only rasterize or RIP the document. Since all printers in Figure 24 of Barry actually print or mark a portion of the file in a similar manner, Barry does not make a distinction between printer functionality. So, Barry does not disclose claim 8's step of transmitting a first print job segment of the plurality of print job segments to a target printer to be printed and transmitting remaining print job segments to the one or more distribution responsive printers (column 27, lines 66-column 28, line 9). Figure 24, makes no distinction in function or labeling between marking engines M1-M4 2408. All the printers in Barry are alike in the marking or print function. The function of the target printer and the distribution responsive printers in claim 8 are distinct. The distribution responsive printers only RIPS the print job segments, while the target printer actually prints the entire job, but can also RIP the print job segments like the distribution responsive printers prior to printing the entire job. The discussion cited follows figure 24 and states only that distributor 2406 and multi-print engine 2408 sends the RIPPED pages to a plurality of marking engines, no distinction is made between the marking engines. Claim 19 and 20 have also been

rejected using the same pin point citation in Barry and the same reasoning as in claim 8, so these claims should also be allowable for the same reasons. Applicant respectfully submits that claims 8, 19, and 21 are allowable.

For claim 10, Barry does not disclose the step of “sending the plurality of print engine-ready data segments from the print distribution module to the target printer” (column 5, lines 14-20; lines 36-41). Figure 1b of Barry only shows printed segments 150-154 being merged 162 to complete the print job along job path 164. In Figure 1b of Barry, the plurality of job segments never merge into the distributor module 118 and the print job output 164 is not sent from merge 162 to another functional block for printing (column 5, lines 14-20; lines 36-41). Claim 10 claims both these functions not disclosed in Barry. Barry also states the printing is performed prior to merge (column 5, lines 39-41). Applicant respectfully submits that claim 10 is allowable.

With respect to claim 16, Barry does not disclose the step of “transmitting the plurality of print job engine-ready data segments from the distribution responsive printers to the print distribution module” (column 10, lines 30-44). Figure 4 of Barry, only shows arrows leading away from 402, to 404, 406, and 410. The plurality of job segments never merge into a distribution module, the job segments only separate (column 10, lines 30-44). Applicant respectfully submits that claim 16 is allowable.

CONCLUSION

In light of the above, Applicant respectfully submits that pending claims 1-31 are now in condition for allowance. Therefore, Applicant requests that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Steve M. Perry at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

DATED this 21st day of November, 2007.

Respectfully submitted,

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